NEWS IN BRIEF . . .

NRC Committee Seeks Successor to Deep Sea Drilling Project

A committee of the U.S.A.'s National Research Council is examining technical, economic and organizational issues pertaining to the scientific goals of a possible successor to the U.S. National Science Foundation's Deep Sea Drilling Project, which is due to end in 1980.

Major areas of study that could be addressed in a continuing project include

- investigation of geodynamic processes at geologic-plate boundaries on continental margins;
- studies of the stages in development of "mature" continental margins, which do not coincide with plate boundaries;
- deep drilling of the ocean crust; and
- further study of early ocean history in relation to plate tectonics and other topics.

The Committee on Engineering Considerations for the Continuation of Deep-Sea Drilling for Scientific Purposes (of the National Research Council Assembly of Engineering's Marine Board) is chaired by **Claude R. Hocott**, Professor of Petroleum Engineering, University of Texas, Austin. Under consideration are technological questions such as

- costs and functioning of alternative drilling platforms (drilling ships and semi-submerged platforms);
- advances in "riser" technology -- use of a high-pressure, flexible hose to transfer drilling fluids between a platform and a well;
- advances in well-control technology, including well-monitoring techniques and blowout protection;
- alternatives to drilling, such as piston-driven core sampling.

26th International Geological Congress — UPDATE

Worldwide Distribution of Geologists to be Studied

The Organizing Committee of the forthcoming International Geological Congress has decided that it would be useful to have some specific details about the world's geologists. Although a complete and up-to-date card-index of names, addresses and areas of specialization of all geologists in the world, does not at present seem feasible, a study aimed at establishing even the numbers of geologists classified by certain specialties and also by their countries of origin would be helpful. While we are under no illusions as to how difficult it will be to obtain some of these simple facts, we are encouraged by the cooperation received from both the President and the Secretary General of IUGS in carrying out the study.

A questionnaire in both English and French has now been completed and will be distributed in January 1979 to all the IUGS National Committees or their designated contact bodies, as well as to geological surveys in other countries. We are asking that the questionnaires be returned by June 1, 1979. Once processed, the results will be presented to the Congress in Paris. It may be that some of the countries will have difficulties in filling out the questionnaires, but we are certain, nevertheless, that all will profit in the end by this collective information.

J. Bodelle
Vice President, Organizing Committee
26th IGC

Geological Map of Appalachian Mountain Chain Completed

The first geological map to show the distribution and correlation of major rock groups and structures along the Appalachian Mountain Chain has been produced by Memorial University in Newfoundland, Canada. The area mapped includes all of the Atlantic Provinces and part of Quebec and extends southward through Maine, New Hampshire, Vermont, to Georgia and Alabama.

The map incorporates contributions of more than fifty of eastern North America's most prominent geologists. Great interest in the map has already been shown by both the academic and business community and, in particular, by the petroleum and mineral exploration companies. The 11 by 3 foot full colour map at a scale of 1:1 000 000, is an excellent teaching aid and a most attractive wall display.

Initiated by **Dr. Harold Williams** (Professor of Geology at Memorial University and a Fellow of the Royal Society of Canada), and supported financially by the Canada Council through a Killam Senior Research Scholarship, the project has taken, according to Dr. Williams, "every waking hour for two years" to complete. Plans for additional compilations at the same compatible scale and map projection are well advanced. These will include magnetic, gravity, mineral deposits, time of deformation, metamorphism, plutonism and almost all imaginable geological and geophysical parameters. Professor Williams feels that the appearance of these future compilations will establish the Appalachian Mountain System as the best understood and well known of any in the world.

Studying the first geological map devoted to the major rock groups and structures along the Appalachian Mountain Chain are, left to right, Dr. David Skevington (Chairman, IUGS Working Group on the Cambrian-Ordovician Boundary), Dr. M.O. Morgan (President, Memorial University, Newfoundland) and Dr. Harold Williams. (Photo courtesy Bill White)

UNESCO General Conference Appraises IGCP

Strong support was given to the International Geological Correlation Programme (IGCP), a joint undertaking of UNESCO and IUGS, at the Twentieth Session of the UNESCO General Conference in Paris, November 6, 1978. Of the 36 interventions from UNESCO Member States which followed the opening of the Earth Sciences Programme, nearly all commented on IGCP and most either endorsed the Programme or expressed great interest in it. A few (for example, the U.K., Italy, Canada, and Indonesia) thought that it was one of the most successful scientific programmes of UNESCO. Although two countries (Bulgaria and U.S.S.R.) felt that it would have been preferable to have IGCP set up on an inter-governmental basis, the majority requested that its basic organizational framework be left unchanged.

Opening Addresses

In his opening statement, **Dr. A.R. Kaddoura**, (Assistant Director-General for Science, UNESCO) stressed the impressive achievements of IGCP, referring to the work of the 62 active projects and the 67 IGCP National Committees, as well as the 100 or so international working group meetings held each year. **Dr. D.J. McLaren**, Chairman of the IGCP Board, was invited to explain the Programme; he presented to the assembly a comprehensive report on the scientific achievements of IGCP between 1973 and 1977, published as a Special Issue of *Geological Correlation* (see "For your Bookshelves..."). This publication contains scientific reports and demonstrates achievements in the following areas:

- improved techniques, methods and standards;
- geological processes, correlations and concepts;
- protection and utilization of the environment; and
- resource identification and assessment.

Programme results have led to an extension and broadening of research, greater involvement by scientists in many countries and greater communication, exchange, and transfer of technology. The future requires further research on problems of economic and social advancement, and the need to broaden participation by scientists in developing countries.

In a statement read by the Secretary General of IUGS, **Professor R. Trumpp**, IUGS President, referred to the success of the unique organizational structure of IGCP: the combination of UNESCO financial and administrative resources with the scientific expertise of the IUGS Commissions, Committees and Affiliated Associations may well serve as a pilot enterprise for the implementation of similar scientific programmes in the future.

Organizational Structure of IGCP

Resolution 20C/79, which would permit stronger participation by member countries in the running of the Programme, raised some discussion at the Conference. At the Nineteenth Session, the Director-General for UNESCO had been requested to review the procedures governing the appointment of members to the IGCP Board and the composition of the Scientific Committees. Responses to a questionnaire sent to the Member States indicated a slight majority in favour of minor modifications, which resulted (in consultation with IUGS) in Resolution 20C/79, proposing the appointment of 15 members to the Board (by mutual agreement between the Director-General for UNESCO and the President of IUGS from nominations proposed by IGCP National Committees), and also, a 20-member Scientific Committee to replace the existing four Scientific Committees.

At the Twentieth Session, a few Member States, notably Australia and Belgium, felt that the Scientific Committees should be abolished altogether, while Sweden favoured appointing one part of the Board by UNESCO and the other part by IUGS. IUGS expressed basic agreement with the need for minor changes as outlined in Resolution 20C/79.

Various constructive comments were offered by Member States regarding the operation of the Programme; these included

- the need for wider dissemination or application of results (U.K.), especially in developing countries (Yugoslavia);
- proper orientation of IGCP projects toward energy problems (U.K.);
- the need for greater involvement of developing countries by better coordination of efforts, through bi-lateral aid, or through post-graduate training (U.S.S.R., Kenya, Cameroun, Upper Volta, and France); and
- the need for increased funding (Canada).

In responding to comments from Member States, Dr. Kaddoura stated that he appreciated the majority opinion which supported the draft Resolution. His response underlined the fact that some of the suggestions made by Member States were already being incorporated into the Programme: a number of projects, for instance, were dealing with correlations of oil and gas-bearing formations, and the Board had already established a Committee on Programme Development to improve geographical distribution of effort. He also drew attention to the special trust fund established for IGCP and the need for contributions to it.

Dr. Kaddoura called on Member States to support the U.S.S.R. proposal calling for unity by respecting the majority point of view favouring the draft Resolution and by not forcing a vote on some of the suggested amendments to it. When presented for approval at the Plenary Session, Resolution 20C/79 was adopted unanimously.

Atlas for Travelling Geologists

A concise and portable atlas of world geology and mineral deposits, intended to give a broad view of world geology and mineralization to the general public, students and professional earth scientists, is being prepared by **Duncan R. Derry and Associates** in Canada.

Eight multi-coloured maps covering all the land areas of the world show the geology in major mineral-bearing regions. The maps are mostly 1:20 000 000 to 1:30 000 000 in scale and are designed to provide the most convenient overview of each area; there are over 1500 mineralized regions marked. Each map is accompanied by a brief account of the geological history of the area. An introduction summarizes the composition and history of the earth based on the current concept of plate tectonics and its relationship to mountain building, volcanic activity, earthquake centres, and mineral concentrations. An appendix lists the production and reserves of all the principal countries for each major mineral.

Further information on the atlas may be obtained from:
Concise Atlas of World Geology
 c/o Box 69, Simpson Tower
 Toronto, Ontario, Canada, M5H 2I4

Vincent McKelvey Honoured

In honour of his outstanding contributions to the U.S. Geological Survey's Antarctic mapping program from 1971 to 1978, **Vincent E. McKelvey** has had "Mt. McKelvey" in the Thiel Mountains of the Antarctic (about 480 km from the South Pole) named after him. Former director of the U.S. Geological Survey (1971-78), Dr. McKelvey is a member of the IUGS Ad Hoc Committee for the Revision of the Constitution.

"LITHOSPHERE- ASTHENOSPHERE INTERACTION"

ICG Annual Meeting

Leningrad, October 2-11, 1978

Scientific symposia under the general title 'The Lithosphere-Asthenosphere interaction and its role in tectonic processes', and a special workshop on 'magnetostratigraphy and geodynamics' were highlighted at the 1978 annual meeting of the Inter-Union Commission on Geodynamics (ICG). The symposia were:

- Alpine belts of Europe
- Geological and geophysical studies of inland seas
- Geological and geophysical studies in the Pamir-Himalayas Program, and
- Velocity, attenuation and other geophysical properties of the upper mantle.

The latter symposium developed aspects of mantle structure through seismic and other studies, and the introduction of such considerations into geodynamics discussions seemed especially important.

Summaries of the Bureau meetings and the Commission meeting will be published in *Geodynamics International* 14 (which is obtainable from the ICG Secretariat). Discussions at the business meetings focussed on the preparation of the final report volumes, which will appear as a uniform series prepared by the Bureau and Working Groups and published jointly by the American Geophysical Union and the Geological Society of America.

Professor V.V. Belousov and the Soviet Geophysical Committee made excellent arrangements for the meeting in Leningrad, which included simultaneous translation into Russian and English, and arranged several field trips in the local area. The number of participants was 146, of which 112 were from the U.S.S.R., 11 from the U.S.A., 4 from G.D.R., 3 each from Canada and India, and 2 each from Austria and the U.K. Other countries represented were Argentina, Australia, France, Japan, Poland, Romania and South Africa.

R.D. Russell
Secretary General, ICG

President of ICG, Professor A.L. Hales (left) meets with ICG Bureau Member Professor T. Asada (Japan) in one of the ornate rooms of the Scientists' Club, Leningrad, U.S.S.R.

Introduction to X-Ray Spectrometric Analysis

by Eugene P. Bertin, RCA Laboratories

"Bertin has succeeded in providing at once a text and a manual particularly suitable for beginners.... This book has the dominant characteristics of his previous books which have made them the bible of X-ray spectroscopists—clarity, thoroughness—nothing is left to guesswork."

—Henry Chessin, *X-Ray Clinic, SUNY, Albany*

500 pp., illus., 1978, \$28.50 (\$34.20/£17.96 outside US)

An Introduction to Microscopy by Means of Light, Electrons, X-Rays, or Ultrasound

by Theodore George Rochow, North Carolina State University at Raleigh
and Eugene George Rochow, Harvard University

Contents: A brief history of microscopy. Definitions, attributes contributing to visibility, and principles. Simple and compound microscopes. Compound microscopes using reflected light. Microscopy with polarized light. The microscopical properties of fibers. Microscopical properties of crystals. Photomicrography. Contrast: phase, amplitude, and color. Interferometry in microscopy. Microscopical stages. Transmission electron microscopy. Scanning electron microscopy. Field-emission microscopes. X-ray microscopy. Acoustic microscopy.

384 pp., illus., 1978, \$29.50 (\$35.40/£18.59 outside US)

Environmental Chemistry

edited by J. O'M. Bockris, Flinders University of South Australia

"...truly excellent.... This volume is a definitive study of pollutants, their chemistry, social impact and methods of control."

—Harry Bloom, *Search*

808 pp., illus., 1977, \$49.50 (\$59.40/£31.19 outside US)

Practical Scanning Electron Microscopy Electron and Ion Microprobe Analysis

edited by Joseph I. Goldstein, Lehigh University
and Harvey Yakowitz, National Bureau of Standards

"This is an outstanding book from several viewpoints and should become the standard text for scanning electron microscopy (SEM) and electron probe microanalysis (EPMA) laboratories and academic institutions..."

—L. S. Birks, *Analytical Chemistry*

600 pp., illus., 1975, \$35.00 (\$42.00/£22.05 outside US)

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